CLAIMS

Please amend the claims as follows:

1. (Original) In a wireless communication system, a method for utilizing a single Internet Protocol address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, comprising:

establishing a first Point-to-Point Protocol link having an Internet Protocol Address;

establishing a second Point-to-Point Protocol link having the same Internet Protocol Address as the first Point-to-Point Protocol link; and

differentiating the endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic.

2. (Original) The method of claim 1 wherein the link characteristic is Quality of Service.

3. (Original) The method of claim 1 wherein the link characteristic is compression type.

4. (Original) The method of claim 1 wherein the link characteristic is encryption level.

5. (Original) The method of claim 1 wherein the link characteristic is Radio Link Protocol transmission delay.

6. (Original) The method of claim 1 wherein the link characteristic is guaranteed delivery level.

7. (Original) The method of claim 1 wherein the wireless device uses Simple Internet Protocol service.

8. (Original) The method of claim 1 wherein the wireless device uses Mobile Internet Protocol service.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Original) In a wireless communication system, a method for providing multiple grades of Radio Link Protocol service to an application of a wireless device, comprising:

establishing a Point-to-Point Protocol session for each grade of Radio Link Protocol service used by the application to create a set of Point-to-Point Protocol sessions, where each Point-to-Point Protocol session belonging to the set has the same Internet Protocol address; and

differentiating the endpoint of each Point-to-Point Protocol session in the set using a session link characteristic.

20. (Original) The method of claim 19 wherein the link characteristic is Quality of Service.

21. (Original) The method of claim 19 wherein the link characteristic is compression type.

22. (Original) The method of claim 19 wherein the link characteristic is encryption level.

23. (Original) The method of claim 19 wherein the link characteristic is Radio Link Protocol transmission delay.

24. (Original) The method of claim 19 wherein the link characteristic is guaranteed delivery level.

25. (Original) The method of claim 19 wherein the wireless device uses Simple Internet Protocol service.

26. (Original) The method of claim 19 wherein the wireless device uses Mobile Internet Protocol service.

27. (Original) In a wireless communication system, a method for providing at least one grade of Radio Link Protocol service to a first application, and at least one grade of Radio Link Protocol service to at least a second application of a wireless device, comprising:

establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the first application, and establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the at least second application, wherein each of the Point-to-Point Protocol sessions has the same Internet Protocol Address; and

differentiating the endpoint of each Point-to-Point Protocol sessions using a session link characteristic.

28. (Original) The method of claim 27 wherein the link characteristic is Quality of Service.

29. (Original) The method of claim 27 wherein the link characteristic is compression type.

30. (Original) The method of claim 27 wherein the link characteristic is encryption level.

31. (Original) The method of claim 27 wherein the link characteristic is Radio Link Protocol transmission delay.

32. (Original) The method of claim 27 wherein the link characteristic is guaranteed delivery level.

33. (Original) The method of claim 27 wherein the wireless device uses Simple Internet Protocol service.

34. (Original) The method of claim 27 wherein the wireless device uses Mobile Internet Protocol service.

35. (Original) A wireless communication system comprising:

a wireless device for supporting multiple Point-to-Point Protocol sessions having an identical Internet Protocol Address and different link characteristics; and

a wireless network node for exchanging data packets with the wireless device by differentiating the endpoint of each of the multiple Point-to-Point Protocol sessions using a session link characteristic.

36. (Original) The method of claim 35 wherein the wireless network node is a Packet Data Service Node.

37. (Original) The method of claim 35 wherein the wireless network node is an Interworking Function.

38. (Original) The method of claim 35 wherein the link characteristic is Quality of Service.

39. (Original) The method of claim 35 wherein the link characteristic is compression type.

40. (Original) The method of claim 35 wherein the link characteristic is encryption level.

41. (Original) The method of claim 35 wherein the link characteristic is Radio Link Protocol transmission delay.

42. (Original) The method of claim 35 wherein the link characteristic is guaranteed delivery level.

43. (Original) The method of claim 35 wherein the wireless device uses Simple Internet Protocol service.

44. (Original) The method of claim 35 wherein the wireless device uses Mobile Internet Protocol service.

45. (Original) A wireless device comprising a memory, wherein the memory embodies a method for supporting multiple Point-to-Point Protocol links having an identical Internet Protocol address, the method comprising:

establishing a first Point-to-Point Protocol link having an Internet Protocol Address;

establishing a second Point-to-Point Protocol link having the same Internet Protocol Address as the first Point-to-Point Protocol link; and

differentiating the endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic.

46. (Original) The wireless device of claim 45 wherein the link characteristic is Quality of Service.

47. (Original) The wireless device of claim 45 wherein the link characteristic is compression type.

48. (Original) The wireless device of claim 45 wherein the link characteristic is encryption level.

49. (Original) The wireless device of claim 45 wherein the link characteristic is Radio Link Protocol transmission delay.

50. (Original) The wireless device of claim 45 wherein the link characteristic is guaranteed delivery level.

51. (Original) The wireless device of claim 45 wherein the wireless device uses Simple Internet Protocol service.

52. (Original) The wireless device of claim 45 wherein the wireless device uses Mobile Internet Protocol service.

53. (Cancelled)

54. (Original) The wireless device of claim 45 wherein the wireless device uses Simple Internet Protocol service.

55. (Original) The wireless device of claim 45 wherein the wireless device uses Mobile Internet Protocol service.

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Cancelled)

65. (Cancelled)

66. (Original) A wireless network node comprising a memory, wherein the memory embodies a method for supporting multiple Point-to-Point Protocol links having an identical Internet Protocol address, the method comprising:

establishing a first Point-to-Point Protocol link with a wireless device having an Internet Protocol Address;

establishing a second Point-to-Point Protocol link with a wireless device having the same Internet Protocol Address as the first Point-to-Point Protocol link; and

differentiating the endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link within the wireless device using a link characteristic.

67. (Original) The wireless network node of claim 66 wherein the wireless network node is a Packet Data Service Node.

68. (Original) The wireless network node of claim 66 wherein the wireless network node is an Interworking Function.

69. (Original) The wireless network node of claim 66 wherein the link characteristic is Quality of Service.

70. (Original) The wireless network node of claim 66 wherein the link characteristic is compression type.

71. (Original) The wireless network node of claim 66 wherein the link characteristic is encryption level.

72. (Original) The wireless network node of claim 66 wherein the link characteristic is Radio Link Protocol transmission delay.

73. (Original) The wireless network node of claim 66 wherein the link characteristic is guaranteed delivery level.

74. (Original) The wireless network node of claim 66 wherein the wireless device uses Simple Internet Protocol service.

75. (Original) The wireless network node of claim 66 wherein the wireless device uses Mobile Internet Protocol service.

76. (Original) A wireless device comprising;

a wireless modem, a transmitter, and an antenna for establishing a wireless connection to a wireless network;

a control processor; and

a memory coupled to the control processor having code or instructions for directing the control processor to establish multiple Point-to-Point Protocol sessions having an identical Internet Protocol address and different link characteristics with the wireless network, and for

differentiating endpoints of the Point-to-Point Protocol sessions using a session link characteristic.

77. (Original) The wireless device of claim 76 wherein the link characteristic is Quality of Service.

78. (Original) The wireless device of claim 76 wherein the link characteristic is compression type.

79. (Original) The wireless device of claim 76 wherein the link characteristic is encryption level.

80. (Original) The wireless device of claim 76 wherein the link characteristic is Radio Link Protocol transmission delay.

81. (Original) The wireless device of claim 76 wherein the link characteristic is guaranteed delivery level.

82. (Original) The wireless device of claim 76 wherein the wireless device uses Simple Internet Protocol service.

83. (Original) The wireless device of claim 76 wherein the wireless device uses Mobile Internet Protocol service.

84. (Cancelled)

85. (Cancelled)

86. (Cancelled)

87. (Cancelled)

88. (Cancelled)

89. (Cancelled)

90. (Cancelled)

91. (Cancelled)

92. (Cancelled)

93. (Cancelled)

94. (Original) A computer-readable medium having instructions stored thereon to cause computers in a communication system to perform a method for utilizing a single Internet Protocol address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, the method comprising:

establishing a first Point-to-Point Protocol link having an Internet Protocol Address;

establishing a second Point-to-Point Protocol link having the same Internet Protocol Address as the first Point-to-Point Protocol link; and

differentiating the endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic.

95. (Original) The computer readable medium of claim 94 wherein the link characteristic is Quality of Service.

96. (Original) The computer readable medium of claim 94 wherein the link characteristic is compression type.

97. (Original) The computer readable medium of claim 94 wherein the link characteristic is encryption level.

98. (Original) The computer readable medium of claim 94 wherein the link characteristic is Radio Link Protocol transmission delay.

99. (Original) The computer readable medium of claim 94 wherein the link characteristic is guaranteed delivery level.

100. (Original) The computer readable medium of claim 94 wherein the wireless device uses Simple Internet Protocol service.

101. (Original) The computer readable medium of claim 94 wherein the wireless device uses Mobile Internet Protocol service.

102. (Cancelled)

103. (Cancelled)

104. (Cancelled)

105. (Cancelled)

106. (Cancelled)

107. (Cancelled)

108. (Cancelled)

109. (Cancelled)

110. (Cancelled)

111. (Cancelled)

112. (Currently Amended) A computer readable medium having instruction stored thereon to ~~cause~~ cause computers in a wireless communication system to perform a method for providing multiple grades of Radio Link Protocol service to an application of a wireless device, the method comprising:

establishing a Point-to-Point Protocol session for each grade of Radio Link Protocol service used by the application to create a set of Point-to-Point Protocol sessions, where each Point-to-Point Protocol session belonging to the set has the same Internet Protocol address; and

differentiating the endpoint of each Point-to-Point Protocol sessions in the set using a session link characteristic.

113. (Original) The computer readable medium of claim 112 wherein the link characteristic is Quality of Service.

114. (Original) The computer readable medium of claim 112 wherein the link characteristic is compression type.

115. (Original) The computer readable medium of claim 112 wherein the link characteristic is encryption level.

116. (Original) The computer readable medium of claim 112 wherein the link characteristic is Radio Link Protocol transmission delay.

117. (Original) The computer readable medium of claim 112 wherein the link characteristic is guaranteed delivery level.

118. (Original) The computer readable medium of claim 112 wherein the wireless device uses Simple Internet Protocol service.

119. (Original) The computer readable medium of claim 112 wherein the wireless device uses Mobile Internet Protocol service.

120. (Original) A computer readable medium having instructions stored thereon to cause computers n a wireless communication system to perform a method for providing at least one grade of Radio Link Protocol service to a first application, and at least one grade of Radio Link Protocol service to at least a second application of a wireless device, the method comprising:

establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the first application, and establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the at least second application, wherein each of the Point-to-Point Protocol sessions has the same Internet Protocol Address; and

differentiating the endpoint of each Point-to-Point Protocol sessions using a session link characteristic.

121. (Original) The computer readable medium of claim 120 wherein the link characteristic is Quality of Service.

122. (Original) The computer readable medium of claim 120 wherein the link characteristic is compression type.

123. (Original) The computer readable medium of claim 120 wherein the link characteristic is encryption level.

124. (Original) The computer readable medium of claim 120 wherein the link characteristic is Radio Link Protocol transmission delay.

125. (Original) The computer readable medium of claim 120 wherein the link characteristic is guaranteed delivery level.

126. (Original) The computer readable medium of claim 120 wherein the wireless device uses Simple Internet Protocol service.

127. (Original) The computer readable medium of claim 120 wherein the wireless device uses Mobile Internet Protocol service.